

File - VW

LOCKHEED AIRCRAFT CORPORATION		ENGINEERING STUDY <input type="checkbox"/>		LAC, -140						
		CHANGE PROPOSAL <input checked="" type="checkbox"/>								
DATE 1 MAY 1963		AFFECTS: WSP0 <input type="checkbox"/>		PROJECT <input checked="" type="checkbox"/>						
NAME OF MAJOR COMPONENT A-C GENERATOR		PART OR LOWEST SUBASSEMBLY		PART NO. & MODEL OR TYPE						
TITLE OF PROPOSAL : IMPROVEMENT OF A-C GENERATOR SYSTEM										
NATURE OF PROPOSAL : SEE PAGE 2										
REASON FOR PROPOSAL : Continuing failures of the R-329-3 Generator and the R-329-7 Regulator justify the installation of a more reliable system. In addition, the new system provides added capacity allowing for future installation of larger systems.										
ES	ESTIMATED COST AND TIME INVOLVED :									
	ADDITIONAL FUNDING REQUIRED :									
CP	ESTIMATED COST FOR KITS OR PARTS : See Page 4									
	ADDITIONAL FUNDING REQUIRED : Yes (SP-1922) - Yes (SP-1923)									
ITEMS AFFECTED BY PROPOSAL :										
SAFETY <input type="checkbox"/>	MISSION EFFEC- TIVENESS <input checked="" type="checkbox"/>	PERFORM- ANCE <input checked="" type="checkbox"/>	OPERATING PROCEDURE <input checked="" type="checkbox"/>	INTER- CHANGE- ABILITY <input checked="" type="checkbox"/>	WEIGHT OR WEIGHT & BALANCE <input checked="" type="checkbox"/>	TOOLS & SUPPORT EQUIPMENT <input checked="" type="checkbox"/>	MAINTENANCE PROCEDURE <input checked="" type="checkbox"/>	SERVICE LIFE <input checked="" type="checkbox"/>	FLIGHT MANUAL <input checked="" type="checkbox"/>	MAINTENANCE MANUAL <input checked="" type="checkbox"/>
EST. MAN/HRS. REQ'D. TO ACCOMPLISH CHANGE IN FIELD 40										
SOURCE OF PARTS FOR KIT LAC				AVAILABILITY ----- WEEKS AFTER APPROVAL SEE PAGE 5						
DISPOSITION OF SPARES AFFECTED NO LONGER USED - FOR RECOMMENDED SPARES SEE PAGE 4										
INITIATED BY : LAC		APPROVED : WSP0								
Approved For Release 2002/10/31 : CIA-RDP89B00980R000200180046-4										

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NATURE OF PROPOSAL:

- A. Install the Bendix 28B54-14 10 KVA AC generator, and a regulator and control panel, in lieu of the Leland R329-3 AC generator and R329-7 regulator. The output of this 30 KVA generator will be limited to 10 KVA due to the low cooling air pressures. Controls required for the Bendix generator will include the following:
1. A control panel 34B28-19A which would provide overvoltage protection, under-voltage protection, feeder fault protection, underfrequency protection, and auxiliary control circuits for switching and trip light indication.
 2. A voltage regulator 20B56-3A.
 3. Feeder fault current transformers 2B37-1A (3/ship) will be mounted at the AC bus and as an integral part of the generator.
- B. The control panel and voltage regulator will be installed in the main wheel well. Additional wiring will be required between the generator, regulator, control panel, cockpit, and Q-Bay. Existing wires will be utilized wherever possible.
- C. The existing AC generator power relay will be retained. The 15 ampere AC generator power circuit breakers will be replaced by 30 ampere circuit breakers.
- D. The existing control switch and function of same will be retained except that OFF position of the switch will also reset the generator. Reset will be required whenever the generator has

NATURE OF PROPOSAL: (Continued)

tripped due to overvoltage, undervoltage, or feeder fault.

Underfrequency will have automatic reset.

- E. Cooling for the 28B54-14 AC generator will be provided by the boundary layer duct formerly used for the DC generator. An adapter will be fabricated to adapt the duct to the generator blast cap.
- F. The 28B54-14 AC generator and voltage regulator have been thoroughly evaluated in a flight test program just completed. Measurements were recorded of cooling air pressure, generator vibration and temperatures during high altitude tests with generator loading with a dummy load. The results revealed that the generator would operate well within temperature limits with a 10 KVA load. The system proposed above is identical to the 30 KVA system installed and operating in P2V aircraft except for the following:
 - 1. The generator rotates in the opposite direction. This necessitates use of a different cooling fan and frame casting with reversed cooling vanes.
 - 2. The trip point for underfrequency protection will be 320 cps.
 - 3. System operates in different ambient than P2V.
- G. Two additional flight tests will be required to check out the operation of the control panel as installed in the aircraft.
- H. This installation will be a net weight increase of 55 pounds.
- I. Prepare and issue a Service Bulletin and fabricate the necessary parts.

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